OFFICE OF THE MAYOR
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May 15, 2006

Dear Residents:

Enclosed please find the City of Troy's Annual Water Quality Report for the year 2005. The Department of Public Utilities is responsible for supplying water from the Tomhannock Reservoir to your home or business, as well as collecting wastewater. Though we are required by drinking water regulations to send you a copy of this report, we see it as an opportunity for us to confirm that the water arriving at your home exceeds the demanding national and state standards.

In fact, in 2005, the John P. Buckley Water Treatment Plant was issued the "Directors Award of Recognition" by the AWWA/EPA for the fourth consecutive year, for its continued efforts of achieving and maintaining excellence in water quality. This award status is only achieved by **one percent** of the water treatment plants nationwide. The City of Troy will continue to strive for achievement by constantly optimizing the water treatment processes to provide the highest quality water to our customers.

Also in 2005, the Water & Sewer Billing Office was moved from the water treatment plant to City Hall. This change was made in part to allow "one-stop" trips to City Hall. As a result of the continued consolidation of financial services at City Hall, there are two new telephone numbers for the Water & Sewer Billing office. Please post them in a noticeable place so that you may refer to each should a situation arise.

270-4531 **270-4537**

In other water department news, the City of Troy continues to be active in seeking funding sources for upcoming projects. We have reapplied for a $2,000,000 United States Environmental Protection Agency (USEPA) State and Tribal Assistance Grant to help offset the costs of a New York State Department of Environmental Conservation (NYSDEC) required sludge dewatering facility at the Water Treatment Plant. This facility is scheduled to be built this summer and will dewater the sludge, allowing it to be mixed with loamy soil to form a productive topsoil for road projects.

The City has been participating with the Cities of Albany, Rensselaer, Watervliet, Cohoes and the Village of Green Island in a joint venture to develop a USEPA and NYSDEC required Combined Sewer Overflows (CSO) Long Term Control Plan. The six communities, which are referred to by the NYSDEC as the Albany Pool, have received a

$2 million grant to develop the plan. Four engineering firms have been designated by the group to work on the project and see that is completed by the fall of 2009.

I have said in the past that we often overlook the fine natural resource we own in the Tomhannock Reservoir. This year is the 100th Anniversary of the Tomhannock; a milestone the people of the City of Troy should celebrate by helping to protect this magnificent water supply treasure. In return, I pledge to keep Troy water where it now sits, among the best supplies in the United States.

Should you have any questions, comments, concerns or complaints, please do not hesitate to contact me by calling 270-4401, or e-mailing us at **mayorsoffice@troyny.gov**.

Sincerely,

Harry J. Tutunjian
Mayor of Troy

City of Troy
Annual Drinking Water Quality Report for 2005

Public Water Supply ID# 4100050

Harry J. Tutunjian
Mayor

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INTRODUCTION

To comply with State and Federal regulations, 10 NYCRR, Subpart 5-1.72 and 40CFR Part 141, Subpart O, respectively, the City of Troy, Department of Public Utilities is issuing this annual report describing the quality of your drinking water. The purpose of this report is to raise your understanding of drinking water and increase your awareness of the need to protect our drinking water sources. This report provides an overview of last year's water quality. We are proud to report that last year, with one minor exception, your tap water met all State drinking water health standards. Included in the report are details about where your water comes from, what it contains, and how it compares to State standards.

If you have any questions about this report or concerning your drinking water, please contact the City of Troy, Department of Public Utilities at 237-0319. If you want to learn more, please attend any of the regularly scheduled City Council meetings. The meetings are held the first Thursday of each month in the Council Chambers of the Troy City Hall at One Monument Square.

WHERE DOES OUR WATER COME FROM?

In general, the sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and can pick up substances resulting from the presence of animals or from human activities. Contaminants that may be present in source water include: microbial contaminants; inorganic contaminants; pesticides and herbicides; organic chemical contaminants; and radioactive contaminants. In order to ensure that tap water is safe to drink, the State and the EPA prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. The State Health Department's and the FDA's regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

The water source for the City of Troy is the Tomhannock Reservoir, a man made reservoir 6 ½ miles northeast of the City. The reservoir is 5 ½ miles long and holds 12.3 billion gallons when full. The quality of the water from the Tomhannock Reservoir is good to excellent. During 2005, the City did not experience any restriction of our water source. Water flows from the reservoir by gravity, first to the Melrose Chlorination Station, where the water is pre-disinfected with chlorine dioxide, and then on to the John P. Buckley Water Treatment Plant (WTP). The plant is a conventional water treatment plant utilizing coagulation, flocculation, sedimentation, filtration, chlorination and fluoridation processes.

The New York State Health Department completed a Source Water Assessment for the Tomhannock Reservoir. It includes a susceptibility rating based on the risk posed by each potential source of contamination and how likely contaminants could enter the reservoir and is only an estimate of the potential for contamination. It does not mean that the water delivered to your home is or will become unsafe to drink. The assessment found an elevated susceptibility to contamination for this source of drinking water. The amount of agricultural lands in the assessment area results in elevated potential for protozoa and pesticides contamination. However, there is reason to believe that land cover data may over estimate the percentage of row crops in the assessment area. While there are some facilities present, permitted discharges do not likely represent an important threat to source water quality, based on their density in the assessment area. In addition, it appears that the total amount of wastewater discharged to surface water in this assessment area is not high enough to further raise the potential for contamination (particularly for protozoa). There is also noteworthy contamination susceptibility associated with other discrete contaminant sources, and these facility types include: mines and closed landfills. Finally, it should be noted that hydrologic characteristics (e.g. basin shape and flushing rates) generally make reservoirs highly sensitive to existing and new sources of phosphorus and microbial contamination.

FACTS AND FIGURES

The City of Troy, Department of Public Utilities serves water to approximately 50,000 residents of Troy, as well as the industrial and commercial customers within the City, through over 13,000 service connections. In addition, the City wholesales water to the City of Rensselaer, The Village of Menands, and portions of the Towns of East Greenbush, North Greenbush, Brunswick, and Schaghticoke. The Village of Waterford has an emergency connection to the City water system, which is used on an as needed basis.The daily average of water produced is 18 million gallons per day. The total finished water produced at the water treatment plant in 2005 was 5,586.64 million gallons. Of this, 1,454.9 million gallons were accounted for through metered sales within the City, with the remainder being used for the wholesale customers and the unaccounted for water. The unaccounted for water, which is used to flush the distribution system, fight fires, and occasional leakage, is estimated to be about 33.2%. In 2005, water customers within the City of Troy were charged $ 3.03 per 1,000 gallons of water.

ARE THERE CONTAMINANTS IN OUR DRINKING WATER?

Water quality testing is required of all public water systems by Part 5 of the New York State Sanitary Code. According to these requirements, the Department routinely tests your drinking water for numerous contaminants. These contaminants include: total coliform, turbidity, inorganic compounds, nitrate, nitrite, lead and copper, volatile organic compounds, total trihalomethanes, and synthetic organic compounds. The tables on the reverse side indicate which contaminants were detected and which were not.

It should be noted that all drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline (800-426- 4791) or the Rensselaer County Health Department at 270-2664.

WHAT DOES THIS INFORMATION MEAN?

As you can see by the table, our system had one violation. Antimony, one of the Inorganic Contaminants was found at a slightly elevated level during sampling in 2005. Sources for antimony in drinking water are solder, electronics, discharge from petroleum refineries, ceramics and fire retardants. It should be noted that some people who drink water-containing antimony well in excess of the MCL over many years could experience increases in blood cholesterol and decreases in blood sugar. We have also learned through our testing that some other contaminants have been detected; however, most of these contaminants were detected below New York State requirements. They are indicated in the table on the reverse side.

IS OUR WATER SYSTEM MEETING OTHER RULES THAT GOVERN OPERATIONS?

During 2005, our system was in compliance with all applicable State drinking water operating, monitoring and reporting requirements.

INFORMATION ON CRYPTOSPORIDIUM

Cryptosporidium is a microbial pathogen found in surface water and groundwater under the influence of surface water. Although filtration removes Cryptosporidium, the most commonly used filtration methods cannot guarantee 100% removal. As part of the Long Term 2 Enhanced Surface Water Treatment Rule, sampling for Cryptosporidium started in September 2005. Of the four raw water samples taken prior to treatment in 2005, one sample produced one Cryptosporidium cyst. Ingestion of Cryptosporidium may cause cryptosporidiosis, a gastrointestinal infection. Symptoms include nausea, diarrhea and abdominal cramps. Most healthy individuals can overcome disease within a few weeks. However, immuno-compromised people are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their health care

provider regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease and it may be spread through means other than drinking water.

DO I NEED TO TAKE SPECIAL PRECAUTIONS?

Although our drinking water met or exceeded state and federal regulations, some people may be more vulnerable to disease causing microorganisms or pathogens in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice from their health care provider about their drinking water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium, Giardia and other microbial pathogens are available from the Safe Drinking Water Hotline (800-426-4791).

WHY SAVE WATER AND HOW TO AVOID WASTING IT?

Although our system has an adequate amount of water to meet present and future demands, there are a number of reasons why it is important to conserve water:

- Saving water saves energy and some of the costs associated with both of these necessities of life;
- Saving water reduces the cost of energy required to pump water and the need to construct costly new sources, pumping systems and water towers; and
- Saving water lessens the strain on the water system during a dry spell or drought, helping to avoid severe water use restrictions so that essential fire fighting needs are met.

You can play a role in conserving water by becoming conscious of the amount of water your household is using, and by looking for ways to use less whenever you can. It is not hard to conserve water. Conservation tips include:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. Run it only when you have loaded it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank, watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from one of these otherwise invisible toilet leaks. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water using appliances, then check the meter after 15 minutes, if it moved, you have a leak.

SYSTEM IMPROVEMENTS

Several improvement projects or studies for the water treatment plant were completed in 2005. Included was a pilot study for the WTP sludge dewatering facility. Future improvements include the mapping of the distribution system and the design and construction of the sludge dewatering facility at the water treatment plant.

CLOSING

Thank you for allowing us to continue to provide your family with quality drinking water this year. We ask that all our customers help us protect our local water sources, which are the heart of our community and our way of life. The Rensselaer-Taconic Land Conservancy is interested in helping us protect the Tomhannock Watershed. For more information visit their website at www.rtlc.org or write to RTLC, PO Box 40, Lansingburgh Station, Troy, NY 12182.

TABLE OF DETECTED CONTAMINANTS

Contaminant	Violation Yes/No	Date or Frequency of Sample	Level Detected			Unit Measurement	MCLG MRDLG	Regulatory Limit (MCL, TT, MRDL, AL)	Likely Source of Contamination
			Value or Average	Range Low	Range High				
Physical and Chemical Analytes									
pH	No	Daily	**8.69**	6.68	9.04	-	-	NDL	Adjusted at WTP
Temperature	No	Daily	**12.5**	3.8	22.4	^{o} C	n/a	NDL	-
Color	No	Daily	**4**	0	29	color units	n/a	15	Naturally occurring
Turbidity	No	Daily	**0.30**	0.10	0.76	NTU	n/a	5	Soil runoff
Chlorine	No	Daily	**0.87**	0.08	1.38	mg/l	4	4.0	Added disinfectant
Chlorine Dioxide	No	Daily	**0.01**	0.00	0.16	mg/l	0.8	0.8	Added disinfectant
Fluoride	No	Daily	**1.00**	0.10	1.21	mg/l	n/a	2.2	Adjusted at WTP
Alkalinity, as $CaCO_3$	No	Daily	**41.2**	31.5	52.2	mg/l	n/a	NDL	Naturally occurring
Hardness, as $CaCO_3$	No	Weekly	**57**	44	70	mg/l	n/a	NDL	Naturally occurring
Iron	No	Weekdays	**0.03**	0.00	0.20	mg/l	n/a	0.3	Naturally occurring
Manganese	No	Weekdays	**0.01**	0.00	0.19	mg/l	n/a	0.3	Naturally occurring
Disinfection By-Products									
Total Trihalomethanes	No	Quarterly	**29.0**	17.7	44.8	ug/l	n/a	80	Formed by reaction of chlorine and chlorine dioxide with naturally occurring organics.
Total Haloacetic acids	No	Quarterly	**22.2**	0.0	43.0	ug/l	n/a	60	
Chlorite	No	Daily	**0.47**	0.22	0.81	ug/l	n/a	1.00	
Lead and Copper									
Lead *	No	Annually	**0.002**	0.000	0.017	mg/l	0	(AL) 0.015	Household plumbing corrosion, erosion of natural deposits.
Copper	No	Annually	**0.012**	0.000	0.053	mg/l	1.30	(AL) 1.30	
Inorganic Chemicals									
Antimony (Graphite)	Yes	2/9/2005	**0.015**	-	-	mg/l	0.006	0.006	Discharge from Petroleum refineries, fire retardants, ceramics, electronics, solder
Chloride	No	2/9/2005	**21.0**	-	-	mg/l	n/a	250.0	Naturally occurring or road salt
Nitrate-as N	No	4/6/2005	**0.6**	-	-	mg/l	10.0	10.0	Runoff from fertilizer
Sodium **	No	2/9/2005	**9.3**	-	-	mg/l	n/a	**	Naturally occurring
Sulfate	No	2/9/2005	**15.0**	-	-	mg/l	n/a	250.0	Naturally occurring
Radiological									
Combined Radium 226/228	No	3/4/2003	**1.16**	4 quarterly samples taken every 6 years		pCi/l	0	5.0	Naturally occuring
Gross Alpha Particles	No	9/30/2003	**0.366**			pCi/l	0	15.0	Naturally occuring
Gross Beta Particles	No	9/30/2003	**1.73**			pCi/l	0	4 mrem/yr.	Naturally occuring

TABLE OF NON-DETECTED CONTAMINANTS

Contaminant	Violation Yes/No	Date or Frequency of Sample	Level Detected			Unit Measurement	MCLG	Regulatory Limit (MCL, TT, or AL)	Likely Source of Contamination
			Value or Average	Range Low	Range High				
Inorganic Chemicals									
Asbestos	No	3/24/2003	ND	1 sample/9 years		MFL	0	7.0	-
Arsenic	No	2/9/2005	ND	-	-	mg/l	n/a	0.05	-
Barium	No	2/9/2005	ND	-	-	mg/l	2.0	2.0	-
Beryllium	No	2/9/2005	ND	-	-	mg/l	0.004	0.004	-
Cadmium	No	2/9/2005	ND	-	-	mg/l	0.005	0.005	-
Chromium	No	2/9/2005	ND	-	-	mg/l	0.1	0.10	-
Cyanide	No	2/9/2005	ND	-	-	mg/l	0.20	0.20	-
Mercury	No	2/9/2005	ND	-	-	mg/l	0.002	0.002	-
Nickel	No	2/9/2005	ND	-	-	mg/l	n/a	NDL	-
Nitrite-as N	No	4/6/2005	ND	-	-	mg/l	1.0	1.0	-
Selenium	No	2/9/2005	ND	-	-	mg/l	0.05	0.05	-
Silver	No	2/9/2005	ND	-	-	mg/l	n/a	0.1	-
Thallium	No	2/9/2005	ND	-	-	mg/l	0.005	0.002	-
Zinc	No	2/9/2005	ND	-	-	mg/l	n/a	5.0	-
Organic Chemicals									
1,2-Dibromo-3-Chloropropane	No	12/6/2005	ND	-	-	mg/l	0	0.0002	-
2,4,5-TP (Silvex)	No	12/6/2005	ND	-	-	mg/l	n/a	0.01	-
2,4-D	No	12/6/2005	ND	-	-	mg/l	n/a	0.05	-
Alachlor	No	12/6/2005	ND	-	-	mg/l	0	0.002	-
Aldicarb	No	12/6/2005	ND	-	-	mg/l	0.001	0.003	-
Aldicarb Sulfone	No	12/6/2005	ND	-	-	mg/l	0.001	0.002	-
Aldicarb Sulfoxide	No	12/6/2005	ND	-	-	mg/l	0.001	0.004	-
Atrazine	No	12/6/2005	ND	-	-	mg/l	0.003	0.003	-
Carbofuran	No	12/6/2005	ND	-	-	mg/l	0.04	0.04	-
Chlordane	No	12/6/2005	ND	-	-	mg/l	n/a	0.002	-
Endrin	No	12/6/2005	ND	-	-	mg/l	0.002	0.002	-
Heptachlor	No	12/6/2005	ND	-	-	mg/l	0	0.0004	-
Heptachlor Epoxide	No	12/6/2005	ND	-	-	mg/l	0	0.0002	-
Lindane	No	12/6/2005	ND	-	-	mg/l	0.0002	0.0002	-
Methoxychlor	No	12/6/2005	ND	-	-	mg/l	0.04	0.04	-
PCBs	No	12/6/2005	ND	-	-	mg/l	0	0.0005	-
Pentachlorophenol	No	12/6/2005	ND	-	-	mg/l	0	0.001	-
Toxaphene	No	12/6/2005	ND	-	-	mg/l	0	0.003	-
Vinyl Chloride	No	10/18/2005	ND	-	-	mg/l	0	0.002	-

MICROBIOLOGICAL TABLE

Coliform	No	Weekdays	**0.05%**	-	-	%	0	5%	Naturally occurring
E.Coli ***	No	Weekdays	**0**	-	-	-	0	***	Human/animal fecal waste

* Lead and Copper are reported at 90th percentile, where 90% of samples collected are less than the average value. Two of the thirty lead samples collected were above the Action Level (AL) of 0.015 mg/l.

** Water containing more than 20 mg/L of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/L of sodium should not be used for drinking by people on moderately restricted sodium diets.

*** A violation occurs when a total coliform positive sample is positive for E. coli or when a total coliform positive sample is negative for E. coli but a repeat total coliform sample is positive and the sample is also positive for E. coli.

Definitions:

The definitions for MCL, MCLG, MRDL and MRDLG are required in all Annual Water Quality Reports. The other definitions are provided for your use in understanding the table.

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contamination.

Action Level (AL): The concentration of a contaminant, which, if exceeded, triggers treatment, or other requirements that a water system must follow.
Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
Non-Detects (ND): Laboratory analysis indicates that the constituent is not present.
No Designated Limit (NDL): No limit has been designated for this contaminant.
Nephelometric Turbidity Unit (NTU): A measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.
Milligrams per liter (mg/l): Corresponds to one part of liquid in one million parts of liquid (parts per million - ppm).
Micrograms per liter (ug/l): Corresponds to one part of liquid in one billion parts of liquid (parts per billion - ppb).
Picocuries per liter (pCi/l): Corresponds to 0.037 disintegrations per second per liter. The average activity within the human body from Potassium-40 is 0.1 micro curies.